

# Fact Sheet



## For Draft/Proposed Significant Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the original Fact Sheet corresponding with the issuance of the Title V operating permit issued on October 31, 2012.

Permit Number: **R30-03100002-2012**  
Application Received: **November 21, 2012**  
Plant Identification Number: **031-00002**  
Permittee: **Columbia Gas Transmission, LLC**  
Facility Name: **Lost River Compressor Station**  
Mailing Address: **1700 MacCorkle Ave., S.E., Charleston WV 25314**

*Permit Action Number: SM01*

*Revised: Draft/Proposed*

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Physical Location:	Mathias, Hardy County, West Virginia
UTM Coordinates:	685.5 km Easting • 4,305.1 km Northing • Zone 17
Directions:	Traveling on I-81 (in VA), take Exit 257 to US Route 11. Take left on US 11 to State Route 259. Travel North on SR 259 to Mathias, WV. Turn right on Upper Cove and travel 1/4 mile toward Basore. Entrance to facility is on the left.

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### Facility Description

Columbia Gas Transmission operates a natural gas compressor station, known as the Lost River Station, located near Mathias in Hardy County, West Virginia. The compressor station currently employs nine (9) natural gas-fired engines to power the compressor units, including four (4) 1,320 horsepower engines, three (3) 2,700 horsepower engines, one (1) 4,640 horsepower engine and one (1) 4,735 horsepower engine; one (1) natural gas-fired reciprocating engine/emergency generator; one (1) waste water evaporator; two (2) boilers; one (1) fuel gas heater; and numerous storage tanks.

The facility's SIC Code is: 4922 (Natural Gas Transmission).

This significant modification was based on the recently revised permit R14-0013D and covers the following changes:

- Addition of two (2) 9,236 hp Solar Taurus 70 natural gas-fired turbines T01 and T02 (003-01 and 003-02);
- Addition of one (1) 0.75 mmBtu/hr and one (1) 0.25 mmBtu/hr natural gas-fired Fuel Heaters HTR2 and HTR3 (001-04 and 001-05);
- Addition of forty (40) 0.072 mmBtu/hr natural gas-fired Catalytic Heaters SH1 (001-06);
- Permanent removal from service of three (3) 1,320 hp Clark HRA-8T compressor engines E02, E04 and E05 (002-02, 002-04, and 002-05) upon conclusion of a reasonable shakedown period of the new turbines T01 and T02 (not later than 180 days after start-up) ;
- Removal of Boiler BL1

It is important to note that while four additional engines are to be put in “stand-by” mode, Columbia Gas did not request any limitations on the engines’ PTE.

### Emissions Summary

As the result of this modification, facility PTE will change as follows:

Regulated Pollutants	PTE change, TPY
Carbon Monoxide (CO)	20.1
Nitrogen Oxides (NO <sub>x</sub> )	- 260.35
Particulate Matter (PM <sub>10</sub> )	- 0.12
Total Particulate Matter (TSP)	- 0.12
Sulfur Dioxide (SO <sub>2</sub> )	0.41
Volatile Organic Compounds (VOC)	- 9.04
Hazardous Air Pollutants	PTE change, TPY
Total HAPs	- 8.72

### Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 377.0 tons per year of CO, 943.27 tons per year of NO<sub>x</sub>, 110.1 tons per year of VOCs, over 10 TPY of formaldehyde and 42.49 tons per year of aggregate hazardous air pollutants (HAPs). Due to this facility's potential to emit over 100 tons per year of criteria pollutants, over 10 TPY of a single HAP and over 25 tons per year of aggregate HAPs (42.49 TPY), Columbia Gas Transmission, LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Opacity Requirements for boilers
	45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40CFR60
	45CSR14	Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines
	40 C.F.R. Part 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
	40 C.F.R. Part 63 Subpart YYYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

### Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R14-0013D	May 31, 2013	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

### Determinations and Justifications

Changes to the existing permit:

- Emission Units and Listing of Applicable Requirements Table 1.0:
  - engines E02, E04 and E05 will be permanently removed from service pursuant to R14-0013D (requirement 4.1.2(c));
  - 4 reciprocating engines (E07, E08, E09 and E10) were placed on emergency standby;
  - two Solar Taurus turbines (T01 and T02) were added;

- two Fuel Heaters (HTR2 and HTR3) and 40 Catalytic Heaters (SH1) were added;
  - boiler BLR1 is removed;
  - Turbines T01 and T02- added applicable requirements of Section 6.0, 40 C.F.R. 60 Subpart KKKK (Section 8.0), 40 C.F.R. 63 Subpart YYYY (Section 9.0), R14-0013D (Section 21.0), 45CSR16 and 45CSR34;
  - heaters HTR2, HTR3, and SH1- added applicable requirements of Section 4.0 and R14-0013D (Section 21.0);
  - heaters HTR1, HTR2 and HTR3 - added applicable requirements of 40 C.F.R. 63 Subpart DDDDD (Section 17.0) and 45CSR34;
  - emergency generator G3 - added applicable requirements of R14-0013D (Section 21.0);
  - engines E01 through E11- revised list of applicable requirements of R14-0013D (Section 21.0);
  - engine E11 – added Table 6 to the applicable requirement of 40 C.F.R.63 Subpart ZZZZ, §63.6640.
2. 40 C.F.R. 60 Subpart KKKK “*Standards of Performance for Stationary Combustion Turbines*” (Section 8.0) is applicable to the 83.89 MMBtu/hr natural gas fired Solar Taurus turbines (T01 and T02), because they were installed after February 18, 2005 (§60.4300) and are above the applicable size threshold of 10 MMBTU/hr (§60.4305(a)). Applicable provisions of 40 C.F.R. 60 Subpart KKKK are listed in Table 1.0 of the Title V permit. The turbines are subject to NOx emission standards per §60.4320 (Table 1 of 40 C.F.R. 60 Subpart KKKK) and total sulfur content of fuel limit per §60.4330(a)(2). The turbines are subject to annual performance testing for NOx per 40 C.F.R. §60.4340(a). Total sulfur content of fuel shall be monitored per §60.4360 unless “the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO<sub>2</sub> /J (0.060 lb SO<sub>2</sub> /MMBtu) heat input for units located in continental areas” (40 C.F.R. §60.4365(a)). In this case, the sulfur content of the fuel (gaseous) “must be determined and recorded once per unit operating day” (§60.4370(b)). Fuel content monitoring/determination and annual performance tests reports shall be submitted per §60.4375 and §60.4395.
  3. 40 C.F.R. Part 63 Subpart YYYY - *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines* - according to 40 C.F.R. §63.6085, 40 C.F.R. Part 63 Subpart YYYY applies to a “stationary combustion turbine located at a major source of HAP emissions” (§63.6085), therefore it is applicable to turbines T01 and T02. Since these turbines were constructed after January 14, 2003, per §63.6090(a)(2) they are considered “new stationary combustion turbines”. The turbines are subject to a formaldehyde emission limit and operating limitations for turbines not using a catalyst (§63.6100, Tables 1 and 2 (line 2)), performance tests and initial compliance demonstrations (§§63.6110, 63.6115 and 63.6120, 63.6130, Tables 3 and 4), monitoring (§63.6125(b)) and continuous compliance demonstration (§§63.6135 and 63.6140, Table 5 (line 2)), initial notification (§63.6145), reporting (§63.6150 and Table 6 (line 1)) and recordkeeping (§§63.6155 and 63.6160) requirements.
  4. 40 C.F.R. Part 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* - according to 40 C.F.R. §63.7485, 40 C.F.R. Part 63 Subpart DDDDD applies to boilers and process heaters at a major source of HAPs. Fuel gas heaters HTR1, HTR2 and HTR3 are subject to this subpart per §63.7490(a) since they meet the definition of process heater in §63.7575. Process heaters HTR2 and HTR3 are considered “new” because they are constructed after June 4, 2010 per §63.7490(b). Process heater HTR1 is considered “existing” since it was installed in 1990 and “is not new or reconstructed” per §63.7490(d).

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	40 C.F.R. Part 63 Subpart DDDDD compliance date (per §63.7495)
001-02	HTR1*	Fuel Gas Heater	1990 (existing)	0.72 MMBTU/hr	January 31, 2016
001-04	HTR2*	Fuel Gas Heater	2013 (new)	0.75 MMBTU/hr	January 31, 2013 or upon start-up
001-05	HTR3*	Fuel Gas Heater	2013 (new)	0.25 MMBTU/hr	

\* This equipment burns natural gas only.

The heaters meet the category of “Units designed to burn gas 1 fuels” in §63.7499(l). Emission limits are not applicable per §63.7500(a)(1), only Work Practice Standards in Table 3 for heaters “less than or equal to 5 MMBtu/hr and designed to burn gas 1” (line 1 - tune-ups every 5 years as per §63.7540(a)(12), and line 4 – one-time energy assessment). Per §63.7530(d), the Notification of Compliance Status report shall indicate that a tune-up of the unit was conducted, and per §63.7530(e) that the one-time energy assessment was completed. Per §63.7545, initial notification shall be submitted “not later than 120 days after January 31, 2013” for the HTR1, and “not later than 15 days after the actual date of startup” for the HTR2 and HTR3.

- Revised requirement 22.3.1 to modified R14-0013D condition number.

### Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- 40 C.F.R. 60 Subpart GG “*Standards of Performance for Stationary Gas Turbines*”- The new Solar Taurus turbines (T01 and T02) are subject to the requirements of 40 C.F.R. 60 Subpart KKKK, therefore 40 C.F.R. 60 Subpart GG is not applicable (per 40 C.F.R. §60.4305(b)).
- 40 C.F.R. 63 Subpart JJJJJ “*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* “ is not applicable, because Lost River Station is a major source of HAPs.
- 40 C.F.R. Part 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* - according to 40 C.F.R. §63.7485, 40 C.F.R. Part 63 Subpart DDDDD applies to boilers and process heaters at a major source of HAPs. Here is the subpart applicability table for boiler BL2 and Catalytic heaters SH1:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	40 C.F.R. Part 63 Subpart DDDDD Applicability
001-03	BL2*	Wastewater Evaporator Boiler	1997	0.20 MMBtu/hr	Not applicable because Wastewater Evaporator Boiler doesn’t meet definition of “boiler” or “process heater” in §63.7575
001-06	SH1*	40 Catalytic Heaters	2013 (new)	Each 0.072 MMBtu/hr (Total 2.88 mmBtu/hr)	Not applicable because catalytic heaters do not meet definition of “process heater” or “boiler” in §63.7575

\* This equipment burns natural gas only.

4. 40 C.F.R. 64 – newly added emission sources (T01, T02, HTR2, HTR3 and SH1) don't have add-on controls; therefore, in accordance with 40 C.F.R § 64.2(a), CAM is not applicable to this facility.
5. Emission Units and Listing of Applicable Requirements Table 1.0 – reference to 45CSR34 was removed from applicable requirements of engines E01 through E10 because it is not applicable since 40 C.F.R. 63 Subpart ZZZZ doesn't apply.

There are no Greenhouse Gas Clean Air Act requirements for this facility because the facility has not made any changes that triggered a PSD permit modification.

### **Request for Variances or Alternatives**

None.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: June 26, 2013  
Ending Date: July 26, 2013

All written comments should be addressed to the following individual and office:

Natalya V. Chertkovsky-Veselova  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Point of Contact**

Natalya V. Chertkovsky-Veselova  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1220 • Fax: 304/926-0478

### **Response to Comments (Statement of Basis)**

N/A